



Ontario  
Ministry of  
Labour

Ministère  
du Travail  
de l'Ontario

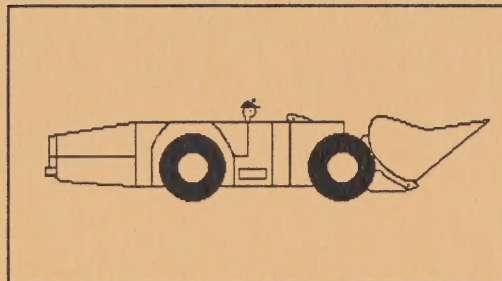
Government  
Publications

CA20N  
L  
-S71



3 1761 12061498 7

**A SUMMARY OF  
ACCIDENTS  
INVOLVING  
UNDERGROUND MOTOR VEHICLES  
IN  
ONTARIO MINES  
FOR THE YEAR 1994**



Mining Health & Safety Program  
933 Ramsey Lake Road  
Sudbury, Ontario  
P3E 6B5

May 1995



## TABLE OF CONTENTS

PREFACE .....	PAGE (i)
---------------	----------

TYPES ACCIDENTS FOR 1980 - 1994 .....	TABLE 1
---------------------------------------	---------

### FIRES

TOTAL FIRES 1980 - 1994 .....	CHART 1
-------------------------------	---------

TYPES OF FIRES FOR 1984 - 1994 .....	TABLE 2 AND CHART 2
--------------------------------------	------------------------

TYPES OF FIRES - 1994 .....	CHART 3.1
-----------------------------	-----------

VEHICLES INVOLVED - 1994 .....	CHART 3.2
--------------------------------	-----------

HOW THE FIRES WERE EXTINGUISHED .....	CHART 3.3
---------------------------------------	-----------

TYPE OF FLAMMABLE LIQUID .....	CHART 3.4
--------------------------------	-----------

BREAKDOWN OF ELECTRICAL FIRES FOR 1980 - 1994 .....	TABLE 3
---	---------

CAUSES OF HYDRAULIC FIRES FOR 1984 - 1994 .....	TABLE 4
---	---------

NUMBER OF FIRES BY COMPANY - 1994 .....	CHART 4
---	---------

### NON-FIRE ACCIDENTS

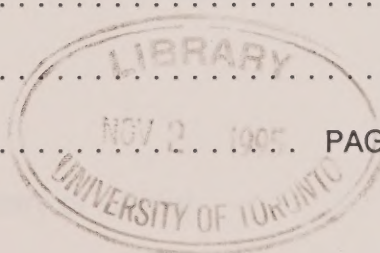
SUMMARY FOR DECADE 1970 TO 1979 & 1980 - 1994 .....	TABLE 5
---	---------

RUNAWAY VEHICLE ACCIDENTS FOR 1980 - 1994 .....	CHART 5
---	---------

BREAKDOWN OF RUNAWAY ACCIDENTS .....	TABLE 6
--------------------------------------	---------

TYPES OF ACCIDENTS - 1994 .....	CHART 6
---------------------------------	---------

LISTING OF VEHICLE ACCIDENTS FOR 1994 .....	PAGES 1 - 28
---	--------------







Digitized by the Internet Archive  
in 2024 with funding from  
University of Toronto

<https://archive.org/details/31761120614987>

## PREFACE

This report is an analysis of accidents involving underground motor vehicles for the year 1994. It includes all reportable accidents including fires, collisions, runaways and turned on to side accidents. Mining regulation 21(5) requires a notice in writing where a major failure or major damage occurs or is caused to a motor vehicle underground.

The listing of accidents is under a heading for categories that indicate the classification of the accidents as follows.

- A - Electrical Fire
- B - Hydraulic Oil Fire
- C - Compressor Fires
- D - Miscellaneous Fires
- F - Fire Caused by Overheated Brakes
- G - Flammable Liquids (other than hydraulic)
- K - Collision
- M - Miscellaneous Accident
- R - Runaway
- T - Turned on Side Accident

There were injuries in 5 accidents, including 2 workers who suffered from smoke inhalation and one from inhalation of the fire suppression powder.

Fires continue at a high number of 55, only slightly down from the peak of 56 that occurred last year. Fires caused by overheated brakes are down to 9 from the peak of 19 reached last year and flammable fluid fires are up to 14 from the average of 8 over the last few years.

Non fire accidents are down to a low of 5, including only two runaways and one turned on side accident (average of 4 for many years). Chart 5 shows that runaway accidents definitely look like they are on a down trend from the high of 19 accidents in 1984.

Extra copies of this report are available by writing to the Ministry of Labour at 933 Ramsey Lake Road, Sudbury, Ontario P3E 6B5 or phoning 705/670-5695 or faxing 705/670-5698.

An excellent source of ideas of how to reduce these fires can be found in the report "Guidelines to Reduce Electrical/Hydraulic-Related Fires on Underground Mobile Equipment" produced by the Ontario Natural Resources Safety Association. Copies can be obtained by phoning 705-474-7233.

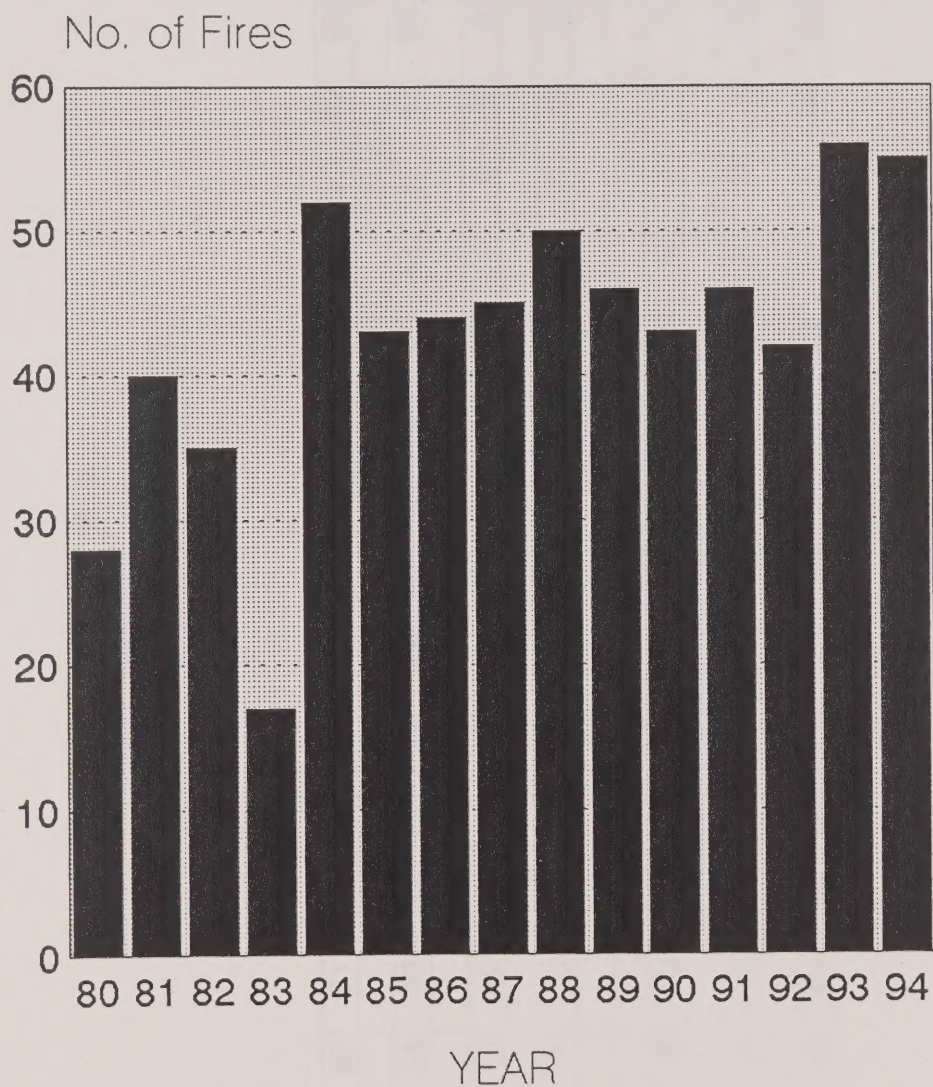




# MOBILE VEHICLE FIRES

## Total Fires for 1980-1994

---



Ontario - Chart No. 1





**TABLE # 1**  
**TYPES OF ACCIDENTS**

**YEAR**

ACCIDENTS	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	TOTAL	%
FIRES	28	40	35	17	52	43	44	45	50	46	43	46	42	56	55	642	66
RUNAWAYS-R	10	10	11	14	19	13	13	15	12	13	14	6	8	8	2	168	17
TURNED ONTO	1	5	5	4	4	4	8	2	5	4	6	4	5	8	1	66	7
SIDE - T																	
COLLISION-K	6	6	5	3	3	4	3	4	3	3	5	4	3	1	1	54	6
MISC. - M	3	0	4	0	0	1	6	5	5	4	2	2	4	1	1	38	4
TOTAL	48	61	60	38	78	65	74	71	75	70	70	62	62	74	60	968	



TABLE # 2

## TYPES OF FIRES

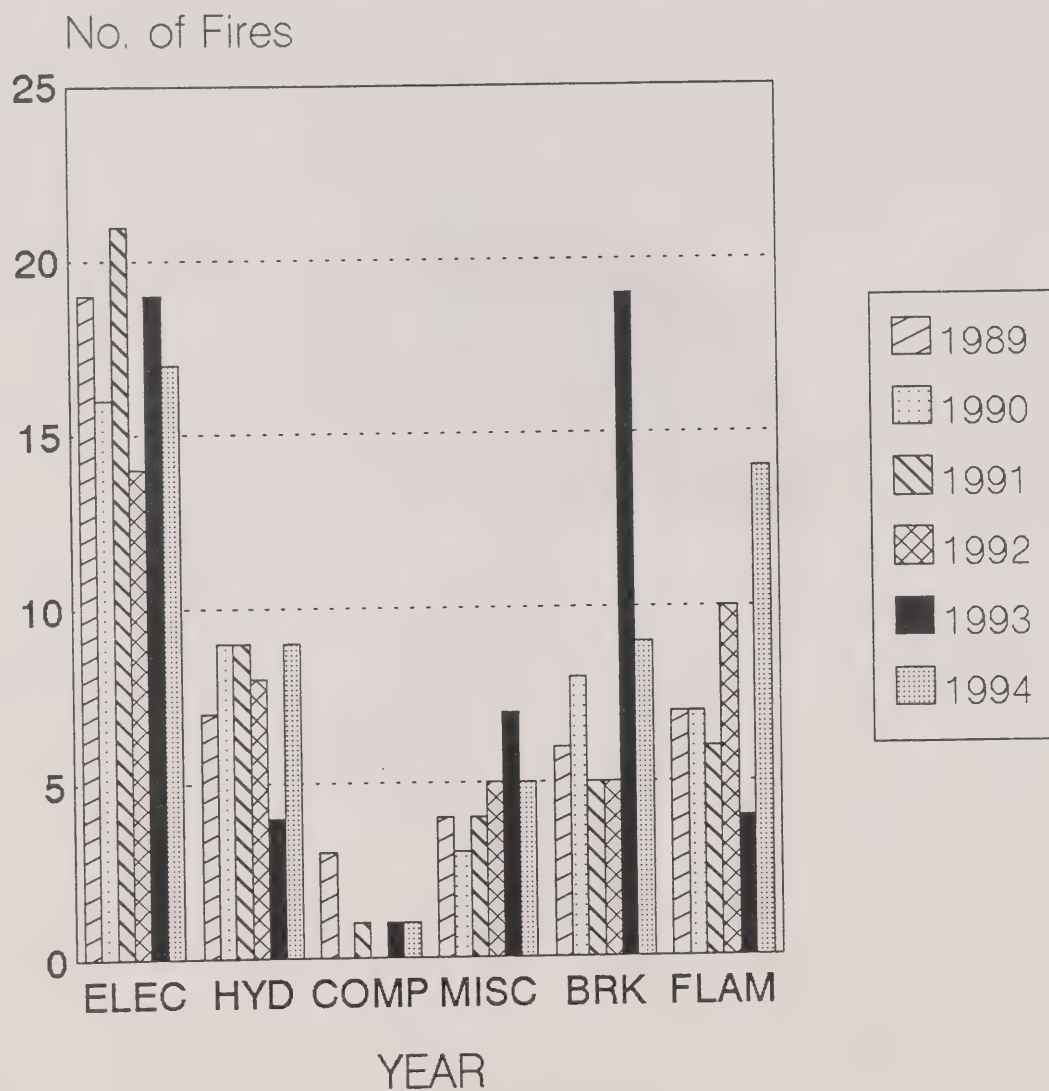
## YEAR

TYPES OF FIRES	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	TOTAL	%
A. ELECTRICAL	17	18	19	17	13	19	16	21	14	19	17	190	36
B. HYDRAULIC OIL ONTO HOT SURFACE	19	12	6	13	16	7	9	9	8	4	8	111	21
C. COMPRESSOR	1	4	2	1	2	3	0	1	0	1	1	16	3
D. OTHER	2	1	4	0	3	2	1	3	4	7	5	32	6
E. WELDING/BURNING	0	0	0	0	0	2	2	1	1	0	0	6	1
F. OVERHEATED BRAKES	8	1	7	7	8	6	8	5	5	19	9	83	16
G. FLAMMABLE LIQUIDS	5	7	6	7	8	7	7	6	10	6	14	83	16
TOTAL	52	43	44	45	50	46	43	46	42	56	54	521	





# MOBILE VEHICLE FIRES by TYPE for 1989-1994



Ontario - Chart No. 2

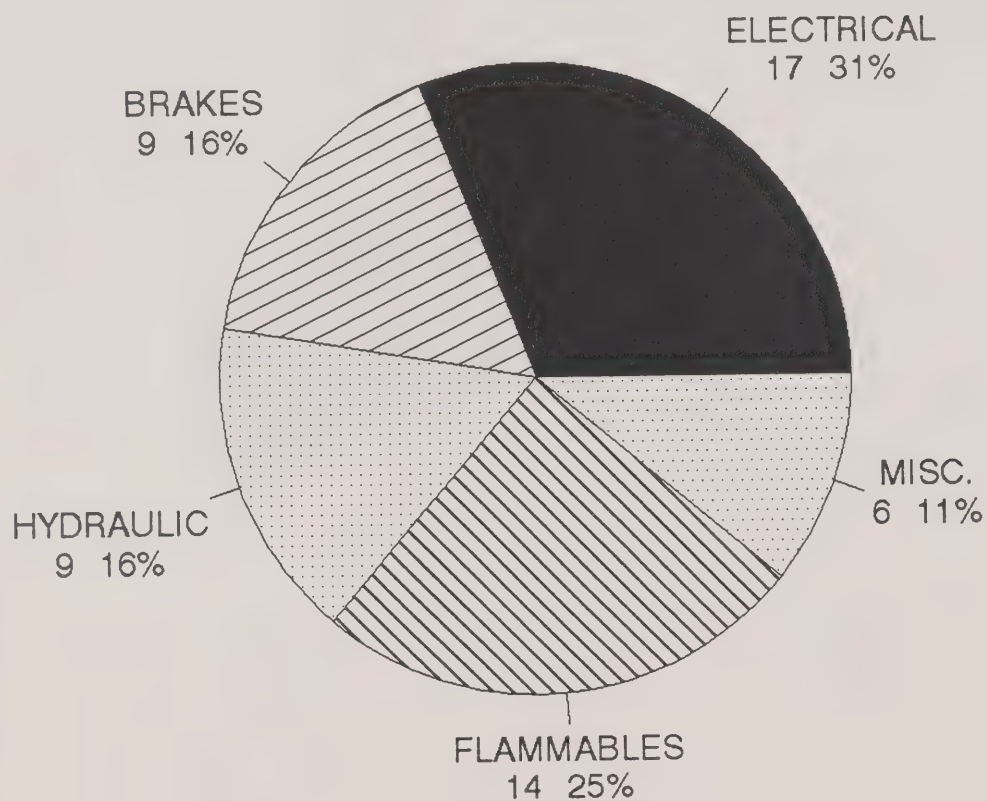




# MOBILE VEHICLE FIRES

## Types of Fires - 1994

---



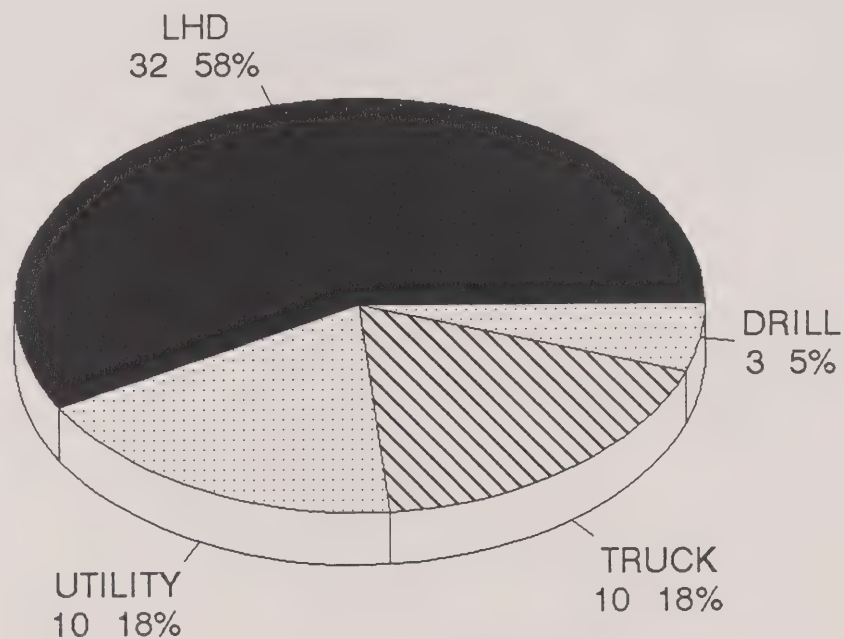
Ontario - Chart No. 3.1



# MOBILE VEHICLE FIRES

## Vehicles Involved - 1994

---



Ontario - Chart No. 3.2

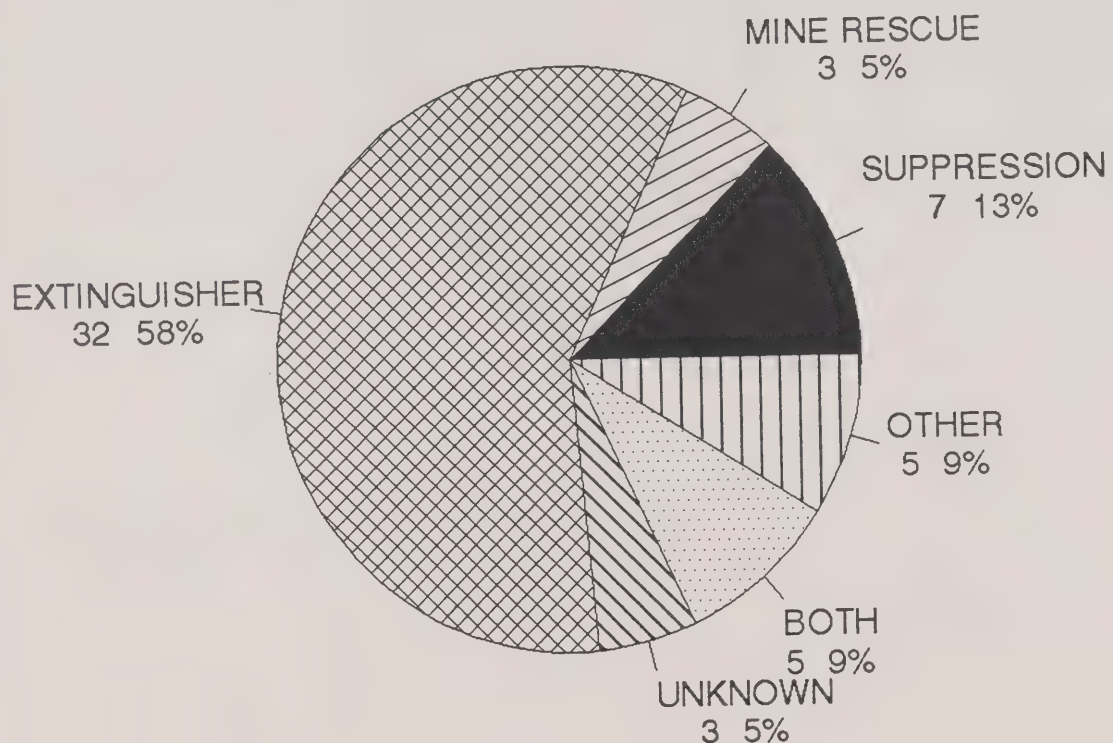




# MOBILE VEHICLE FIRES – 1994

## How the Fires were Extinguished

---



Ontario - Chart No. 3.3

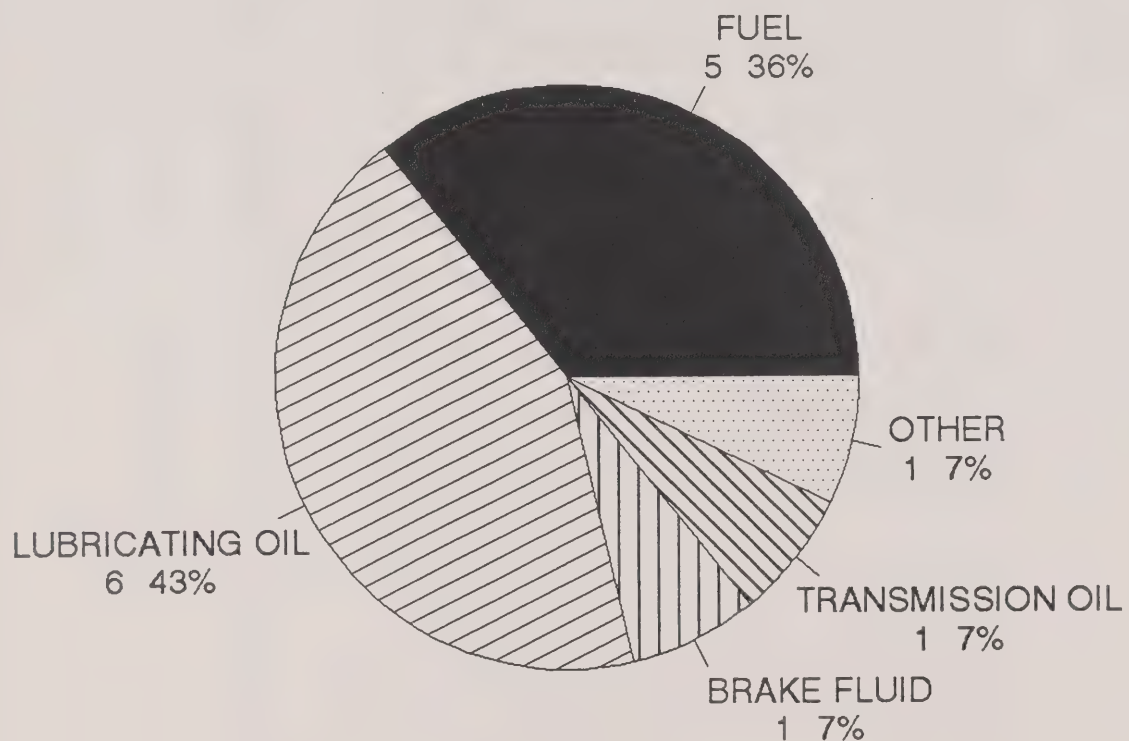




# MOBILE VEHICLE FIRES – 1994

## Type of Flammable Liquid

---



Ontario - Chart No. 3.4



**TABLE # 3**  
**BREAKDOWN OF ELECTRICAL MOBILE VEHICLE FIRES**

AREA OR CAUSE	YEAR														TOTAL	%
	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	
SHORT IN PANEL	3	3	2	1	1	4	2	2	1	4	1	5	1	2	0	32
SHORT -- M. SWITCH	1	0	0	0	1	1	1	0	1	0	0	0	1	2	0	8
BATTERY OR STARTER LOCATION	3	8	3	0	7	9	6	7	5	6	2	8	9	8	6	87
WORN JACKET	6	9	10	3	8	3	4	5	5	7	8	3	2	5	10	88
HEADLIGHT WIRING	0	2	1	0	0	1	0	1	1	0	2	1	0	0	0	9
OTHER	1	0	6	2	0	0	6	2	0	2	3	4	1	2	1	30
TOTAL	14	22	22	6	17	18	19	17	13	19	16	21	14	19	17	254





**TABLE # 4**  
**CAUSES OF HYDRAULIC FIRES**

**Year**

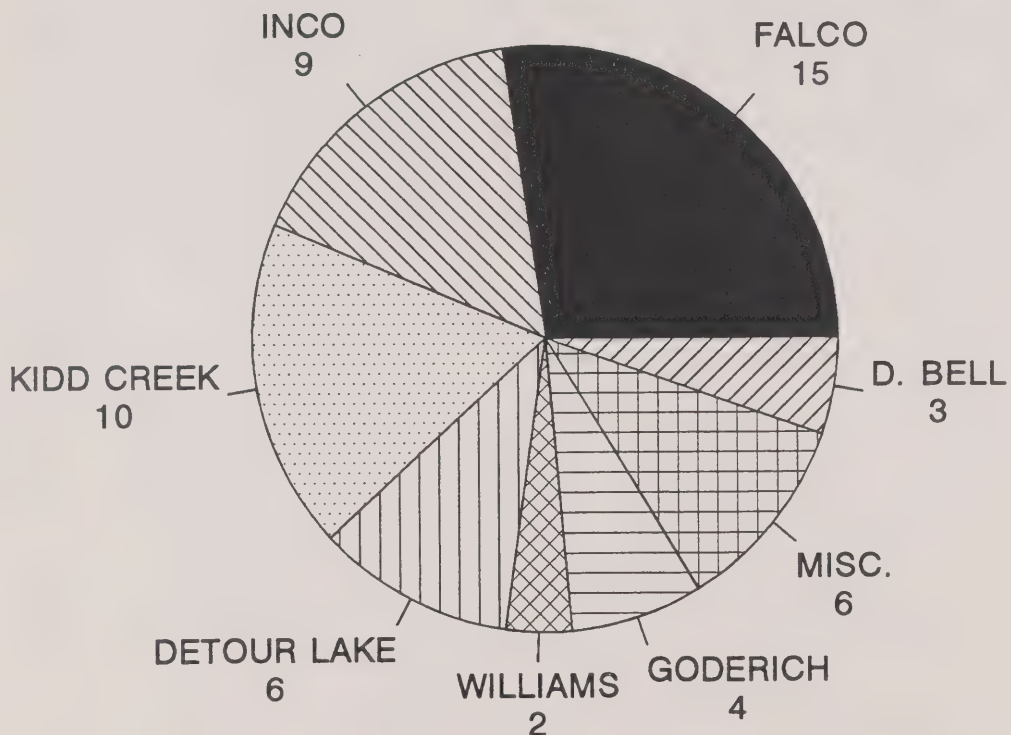
CAUSE	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	TOTAL	%
BROKEN HOSE	7	5	2	5	2	0	0	5	3	3	5	37	33
HOSE WORN THRU	2	3	1	2	5	4	1	2	1	0	0	21	19
CONNECTION FAILURE	4	1	0	3	5	2	4	1	0	0	2	22	20
PIN HOLE LEAK	1	1	1	1	1	0	2	1	1	1	1	11	10
OTHER	5	2	2	2	3	1	2	0	3	0	1	21	19
TOTAL	19	12	6	13	16	7	9	9	8	4	9	112	



# MOBILE VEHICLE FIRES

## No. of Fires by Company - 1994

---



Ontario - Chart No. 4





**TABLE # 5**  
**NON-FIRE VEHICLE ACCIDENTS**

**YEAR**

TYPE OF ACCIDENT	79**	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	TOTAL*	%
COLLISION - MACHINE	15	3	4	3	3	3	4	2	2	2	0	2	2	2	0	0	32	10
COLLISION-MAN ETC	14	3	2	0	0	0	0	1	2	1	3	3	2	1	1	1	20	6
RUNAWAY	79	10	10	11	14	19	13	13	15	12	13	14	6	8	8	2	168	52
TURNED ON SIDE	11	1	5	4	4	4	4	8	2	5	4	6	4	5	8	1	65	20
OVERTURNED	2	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2	1
MISCELLANEOUS	26	2	0	3	0	0	1	6	5	5	4	2	2	4	1	1	36	11
TOTAL	147	20	21	22	21	26	22	30	26	25	24	27	16	20	18	5	323	
NO. OF VEH. U/G		1042			1267	1676						2521	2239					
ACCIDENTS/VEHICLE		1.9%			1.7%	1.6%						1.1%	.7%					

\* - Total for 1980 - 1994

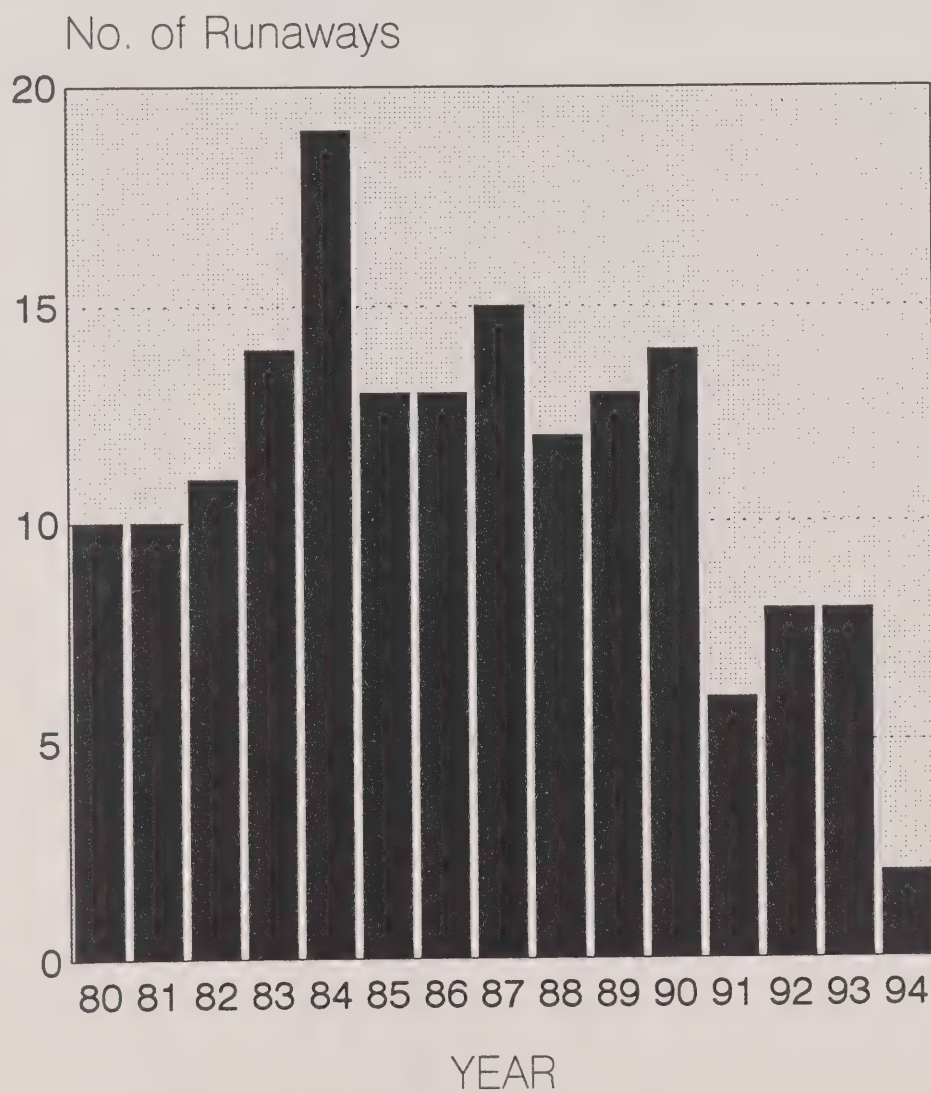
\*\* - Total for 1970 - 1979



# MOBILE VEHICLE ACCIDENTS

## Runaway Accidents for 1980-1994

---



Ontario - Chart No. 5





**TABLE # 6**  
**RUNAWAY VEHICLE ACCIDENTS**

**YEAR**

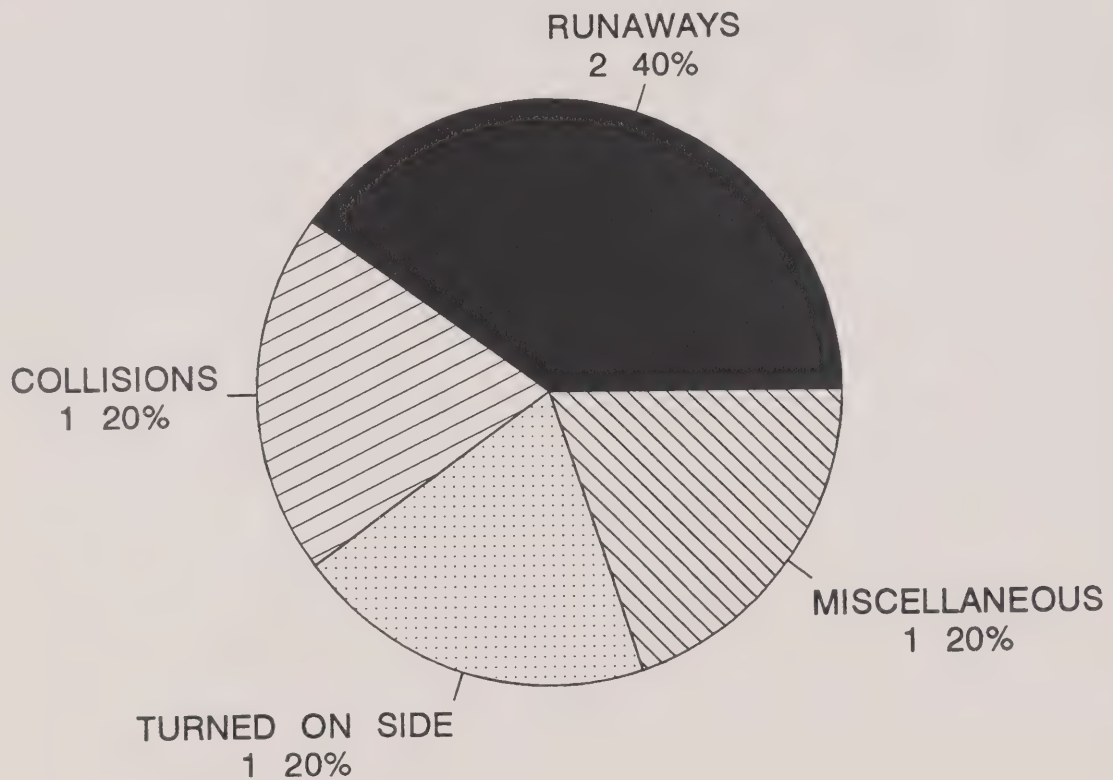
MAIN CAUSE	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	TOTAL	%
SERVICE BRAKES POOR	5	4	3	0	2	4	2	3	4	1	28	27
PARK BRAKE DIDN'T HOLD	2	0	2	4	5	5	3	1	1	0	23	22
BRAKE FAILURE	0	2	3	3	2	2	0	1	1	0	14	13
OPERATOR ERROR	4	3	4	4	2	0	0	2	0	1	20	19
OTHER	2	4	3	1	2	3	1	1	2	0	19	18
TOTAL	13	13	15	12	13	14	6	8	8	2	104	



# MOBILE VEHICLE ACCIDENTS

## Types of Accidents - 1994

---



Ontario - Chart No. 6



# **VEHICLE ACCIDENTS**

**1994**





- A -

## Electrical Fires

**UO-940429-06-34-MV(F) April 29, 1994**  
**FALCONBRIDGE LTD, KIDD CREEK MINE**

**INCIDENT:**

A fire that started on a Kubota tractor was put out with an extinguisher.

**CAUSE:**

Cable resting on manifold not properly tied back.

**PREVENTATIVE ACTION:**

Proper care in routing of electric cables.

**UO-940527-06-37-MV(F) May 27, 1994**  
**FALCONBRIDGE LTD, KIDD CREEK MINE**

**INCIDENT:**

A fire occurred on a Kubota tractor when starter wires touched the exhaust. The fire was extinguished with a hand held extinguisher.

**CAUSE:**

Wires from the starter were touching the exhaust system.

**PREVENTATIVE ACTION:**

Management held a meeting with workers to discuss maintenance and housekeeping.

**UO-940708-09-08-MV(F) July 8, 1994**  
**GOLDCORP INC., RED LAKE MINE**

**INCIDENT:**

While driving a Jarvis Clark JS285 Scooptram on the 2600 decline to the shop for maintenance, a fire occurred. A steel braided hose contacted an electrical solenoid to start the fire. The fire suppression system on the scoop was used to put out the fire.

**CAUSE:**

The steel braided hydraulic hose was routed over an electrical solenoid.

**PREVENTATIVE ACTION:**

The hose was re-routed away from the solenoid.

**UO-940719-09-09-MV(F) July 19, 1994**  
**FALCONBRIDGE LTD, KIDD CREEK MINE**

**INCIDENT:**

A fire occurred on two 8 yd. Toro LHD's in the battery compartment. The fires were extinguished with an extinguisher and the suppression system.

**CAUSE:**

Positive battery cable shorted out on steel braided hydraulic hose.

**PREVENTATIVE ACTION:**

Inform all personnel of hazard and discuss at all Health and Safety meetings.

**UO-940802-09-12-MV(F) August 2, 1994**  
**PLACER DOME INC, DETOUR LAKE MINE**

**INCIDENT:**

A 26 ton Wagner truck suddenly shut down while operating on ramp. Operator went to lunch room to call for a mechanic. In the meantime the truck caught fire. An extinguisher was used to put out the fire.

**CAUSE:**

Damaged wire from starter to battery went to ground, arced and started the fire. Master switch installed on positive side with no safety fuse.

**PREVENTATIVE ACTION:**

The wire was installed on the negative side and a 500 amp safety fuse was installed on the positive side. All other equipment was checked.

**UO-940804-09-13-MV(F) August 4, 1994**  
**FALCONBRIDGE LTD, THAYER LINDSLEY MINE**

**INCIDENT:**

A dead end short occurred in the front lighting wiring of a 6 yd. EJC 210 LHD, causing a fire. The fire was extinguished with a fire extinguisher.

**CAUSE:**

Wire shorted against scooptram frame causing lighting wire to overheat.

**PREVENTATIVE ACTION:**

Installed breaker on left and right light assembly and replaced front wiring harness which was damaged in the incident. Manufacturer was notified of defect found.

**UO-940804-12-10-MV(F) August 4, 1994**  
**TECK CORONA OPERATING COR, DAVID BELL MINE**

**INCIDENT:**

A fire occurred in the midship area of a MacLean block holer, when a hydraulic hose and battery cable were pinched while the operator turned sharply into the ore pass access drift on 8 Level. The fire was extinguished by the vehicle suppression system and several portable extinguishers.

**CAUSE:**

The pinched positive battery cable arced to the frame and ignited the oil leaking from the hydraulic hose.

**PREVENTATIVE ACTION:**

New battery cable and hydraulic hose installed and re-routed away from pinch point.

**UO-940808-12-11-MV(F) August 8, 1994**  
**SIFTO CANADA INC., GODERICH MINE**

**INCIDENT:**

Employee was bolting when he noticed light dimming. He looked at the back of the unit and saw a small flame. He tried to use the boom to come down. As he directed the boom to swing, a larger flame erupted. He then used the ladder to descend. He put out the fire using a hand-held extinguisher.

**CAUSE:**

Vibration and movement along the metal surface caused battery cable to fray. When the operator moved the boom, it would cause the frayed battery cable to ground out and spark. This spark ignited a mist from a small leak in the hydraulic hose.

**PREVENTATIVE ACTION:**

1. Repaired the hydraulic hose. 2. Replaced frayed battery cable. 3. Secured battery cable to avoid severe rubbing.

**UO-040901-12-01-MV(F) September 1, 1994**  
**FALCONBRIDGE LTD, CRAIG MINE**

**INCIDENT:**

A worker was operating a Getman Trammer when flames were noticed from the boom pedestal area. The fire went out on its own. Conditions were normal.

**CAUSE:**

Wires in the boom pedestal were not adequately secured. Excessive movement wore off protective coating, causing the wires to short out.

**PREVENTATIVE ACTION:**

Wires were replaced and properly secured. The circuit breaker was repositioned and tested.

**October 8, 1994**  
**PLACER DOME INC., DETOUR LAKE MINE**

**INCIDENT:**

A worker was operating a Wagner 3 1/2 yard scooptram in a captive stope when a fire occurred in the starter. The fire extinguisher failed and the worker activated the fire procedure. Two mine rescue teams went underground and they found that the fire was out.

**CAUSE:**

Electrical short in the starter caused the fire, which was fuelled by excessive grease.

**PREVENTATIVE ACTION:**

A portable powerwasher will be used for captive equipment. Crews who refill extinguishers were advised of extinguisher problems.

**October 25, 1994**  
**INCO LTD., COPPER CLIFF SOUTH MINE**

**INCIDENT:**

A fire in a Bobcat occurred shortly after the initial check. The open flames were extinguished using a 10 lb. extinguisher.

**CAUSE:**

A short occurred in the wiring harness of the pre-heat solenoid.

**PREVENTATIVE ACTION:**

The wiring harness was changed and the recommended manufacturer's fuses installed to prevent shorting. All other Bobcats were scheduled for inspection.



**UO-941031-12-14-MV(F) October 31, 1994**  
**PLACER DOME INC, DETOUR LAKE MINE**

**INCIDENT:**

While mucking with a Wagner ST8, the operator noticed flames coming from the mid-section of the machine. He activated the fire suppression system which put out the fire.

**CAUSE:**

Wiring caught between two hoses, wore through the insulation causing a short. The circuit breakers did not activate.

**PREVENTATIVE ACTION:**

Replace and reroute wiring, replaced two circuit breakers and checked breakers on all scoops.

**UO-941101-12-15-MV(F) November 1, 1994**  
**FALCONBRIDGE LTD, CRAIG MINE**

**INCIDENT:**

Workman was backblading with an 8 yd. Toro LHD when he noticed flames in and about the air conditioning unit. Workman initiated the fire suppression system to extinguish the flames.

**CAUSE:**

Wiring on unit had rubbed on frame creating bare sections which shorted out causing a fire.

**PREVENTATIVE ACTION:**

Wiring harness changed on unit.



**December 14, 1994**  
**PLACER DOME INC., DETOUR LAKE MINE**

**INCIDENT:**

A fire occurred on a 413 haul truck when some wiring caught fire. The fire was put out with an extinguisher.

**CAUSE:**

Wires shorted in the mid-ship area and a 20 amp breaker did not function as it was frozen.

**PREVENTATIVE ACTION:**

None given.

**UO-941221-12-19-MV(F) December 21, 1994**  
**RIO ALGOM LTD, STANLEIGH MINE**

**INCIDENT:**

An equipment operator entered No. 36625 Stope and found a Ford 3910 tractor with smoke and flames coming from the engine compartment. The fire was extinguished with a portable fire extinguisher.

**CAUSE:**

1. A short circuit in the electrical wiring. 2. Master switch was left in the "On" position.

**PREVENTATIVE ACTION:**

The wiring was repaired. The operating procedures were reviewed with personnel.

**UO-941222-12-20-MV(F) December 22, 1994**  
**METALL MINING CORP., WINSTON LAKE DIVISION**

**INCIDENT:**

The operator of a JS 285 LHD noticed flames coming from the engine compartment. The alternator had caught on fire when the positive terminal came loose and contacted the cover. The windings of the alternator were burning and were extinguished with a hand-held fire extinguisher.

**CAUSE:**

The positive terminal on the alternator came loose and contacted the frame of the alternator. This caused the windings to overheat.

**PREVENTATIVE ACTION:**

The rebuilder of the alternator will be contacted.

**UO-941223-12-21-MV(F) December 23, 1994**  
**BOND GOLD CANADA INC, GOLDEN PATRICIA MINE**

**INCIDENT:**

As a truck entered the 4705 ore dump to dump a load of ore, 2 wires shorted out at a clamp and ignited some oil on the wiring. The truck was an EJC 415 15 ton haulage truck.

**CAUSE:**

The insulation wore out on 2 electrical wires as they passed through a clamp, due to the vibration of the machine.

**PREVENTATIVE ACTION:**

During the 150 hour steam cleaning of the engine, the wiring will be inspected for wear and worn insulation will be repaired.

**- B -**

## **Hydraulic Fires**

**UO-940109-06-24-MV(F) January 9, 1994**  
**FALCONBRIDGE LTD, ONAPING MINE**

**INCIDENT:**

Worker was operating a JCI 6 yd. LHD. He had travelled up ramp from 35 + 4 to the 3200 level when he noticed flames coming from the engine area. Worker extinguished the fire with a 20 lb. dry chemical extinguisher.

**CAUSE:**

The turbo return line had a hairline crack where the tube and the flange plate meet. This allowed oil to leak onto the turbo and resulted in a fire.

**PREVENTATIVE ACTION:**

Unit repaired. Heat shield ordered for turbo charger and exhaust manifold.

**UO-940222-06-31-MV(F) February 22, 1994**  
**FALCONBRIDGE LTD, KIDD CREEK MINE**

**INCIDENT:**

A fire on a Toro 500 LHD occurred when oil on an exhaust pipe and insulation wrapping caught fire. It was extinguished with a hand-held extinguisher.

**CAUSE:**

Hot oil on hot exhaust from a broken hydraulic hose.

**PREVENTATIVE ACTION:**

The hose was repaired.

**UO-940310-09-01-MV(F) March 10, 1994**  
**FALCONBRIDGE LTD, THAYER LINDSLEY MINE**

**INCIDENT:**

A hydraulic hose broke, on a 6 yd. EJC model 210 LHD, spraying oil onto the turbo charger causing a fire. The fire was extinguished using a hand-held extinguisher.

**CAUSE:**

Hydraulic hose broke, spraying oil on the turbo charger, which caused an ignition.

**PREVENTATIVE ACTION:**

Protective blankets have been ordered for the turbo chargers on all scoops with Caterpillar engines.

**UO-940414-06-33-MV(F) April 14, 1994**  
**SIFTO CANADA INC., GODERICH MINE**

**INCIDENT:**

An oil leak was spraying onto compressor of a CMS Bolter and it caught on fire. A fire extinguisher was used to put it out.

**CAUSE:**

When operator checked unit, nothing would happen. It seems oil sprayed only when operating.

**PREVENTATIVE ACTION:**

Closer check of hoses on P.M.'s to try and pick up on defects.

**UO-940401-09-02-MV(F) April 1, 1994**  
**FALCONBRIDGE LTD, ONAPING MINE**

**INCIDENT:**

Operator was mucking in 43-4-485 stope on a Toro 8 yd. scoop when the hose leading from the dump hoist pump sprayed oil on the turbo charger and ignited the oil. The fire was put out with an extinguisher.

**CAUSE:**

High pressure hose (#20 HP) leading from hydraulic pump failed and a small spray of oil from the hose sprayed onto the hot exhaust turbo charger.

**PREVENTATIVE ACTION:**

Work orders have been issued for all scoops to complete a fire audit and to list repairs required to upgrade each unit.

**September 10, 1994**  
**FALCONBRIDGE LTD., KIDD CREEK MINE**

**INCIDENT:**

The operator of Toro 501D 8 yard LHD noticed an engine fire. It was extinguished using a hand held fire extinguisher.

**CAUSE:**

A hydraulic hose failed and sprayed the engine.

**PREVENTATIVE ACTION:**

Better examination of the machines will be made during the pre-shift check.

**UO-941108-12-16-MV(F) November 8, 1994**  
**WILLIAMS OPERATING CORP., WILLIAMS MINE**

**INCIDENT:**

During remote operation of Elphinstone R1500 LHD unit, the operator noticed a fire in the engine compartment. The vehicle's suppression system extinguished the flames. The unit was later pulled out of the stope.

**CAUSE:**

A broken hydraulic hose sprayed oil into the engine compartment which was ignited by the exhaust.

**PREVENTATIVE ACTION:**

Replaced hydraulic hose. Reviewed procedures to identify causes.



**November 21, 1994**

**TECK-CORONA OPERATING CORP. - DAVID BELL MINE**

**INCIDENT:**

A worker was driving a stiltmobile when he noticed flames coming through the floor of the operator's compartment. He stopped the machine, activated the fire suppression and then used two 5 pound extinguishers to put out the flames in the engine compartment.

**CAUSE:**

The high pressure hydraulic hose from the transmission pump to the filter came loose and sprayed oil on the exhaust system.

**PREVENTATIVE ACTION:**

The hydraulic hose was tightened and the machine was moved to the shop for further inspection.

**December 28, 1994**

**INCO LTD., CREIGHTON MINE**

**INCIDENT:**

A fire occurred on a drill jumbo. The flames in the area of the driveline brake were extinguished with the fire suppression system.

**CAUSE:**

It is suspected that an oily rag may have been ignited by a spark from a chunk of muck caught in the brake caliper.

**PREVENTATIVE ACTION:**

The jumbo was washed, the brakes tested and the hoses checked for leaks.



- C -

## **Compressor Fires**

**UO-940623-09-05-MV(F) June 23, 1994**  
**FALCONBRIDGE LTD, THAYER LINDSLEY MINE**

**INCIDENT:**

Compressor discharge hose failed on a JS 500 LHD resulting in a torch like effect with flame which was put out by the operator with a hand held extinguisher.

**CAUSE:**

Compressor discharge line was blocked by carbon causing overheating and bursting, resulting in a flame.

**PREVENTATIVE ACTION:**

Review maintenance procedures to ensure replacement of compressor discharge line at appropriate intervals.

- D -

## Miscellaneous Fires

**UO-940310-12-03-MV(F) March 10, 1994**  
**FALCONBRIDGE LTD, CRAIG MINE**

**INCIDENT:**

Worker was using an 8 yd. Toro LHD muck ore from 1210 Stope to the orepass. The worker noticed smoke coming from the right front tire area of his scoop. Upon investigation he discovered that the right front tire was burning. The operator extinguished the fire with a 20# dry chemical fire extinguisher.

**CAUSE:**

Steel rim on the tire split in the centre. This allowed the core-filled tire to flatten out and rub on the frame of the scooptram.

**PREVENTATIVE ACTION:**

The defective rim was replaced. The damaged unit was sent out to the manufacturer for analysis.

**April 29, 1994**  
**INCO LTD., COPPER CLIFF SOUTH MINE**

**INCIDENT:**

Two workers were welding on an LHD in the 3000 level garage when a fire occurred. The workers inhaled some smoke.

**CAUSE:**

A film of oil on the fire wall caught fire.

**PREVENTATIVE ACTION:**

Flammable material will be cleared away.

**UO-940511-06-35-MV(F) May 11, 1994**  
**FALCONBRIDGE LTD, KIDD CREEK MINE**

**INCIDENT:**

An operator was driving when he noticed flames at his feet. Rags were left on the floor of a Kubota tractor near the exhaust system and caught fire. Water was used to put the fire out.

**CAUSE:**

Rags left too close to exhaust, poor housekeeping.

**PREVENTATIVE ACTION:**

Meeting held with all maintenance & housekeeping.

**June 27, 1994**

**TECK CORONA OPERATING COR, DAVID BELL MINE**

**INCIDENT:**

Worker was mucking with a Jarvis Clark C130 4 yard LHD when he noticed flames under the exhaust blanket. He operated the suppression system and initiated the fire procedure. A mine rescue team investigated and found that the fire was out.

**CAUSE:**

None given.

**PREVENTATIVE ACTION:**

None given.

**UO-940629-12-08-MV(F) June 29, 1994**  
**INCO LTD, McCREEDY WEST**

**INCIDENT:**

An RBL boom truck was descending a ramp when a flame was noticed coming out of the engine compartment. The operator stopped the vehicle and used an extinguisher to put out the fire.

**CAUSE:**

A connecting rod broke, punching a hole in the side of the block. Oil sprayed onto the hot PTX scrubber.

**PREVENTATIVE ACTION:**

None given.

- F -

## **Fires Caused by Overheated Brakes**

**January 7, 1994**

**INCO LTD., CREIGHTON MINE**

**INCIDENT:**

An Eimco 8.5 yard LHD was tramming cement from surface down a ramp when the right front wheel caught fire. The operator used the fire suppression system and an extinguisher but couldn't put the fire out. Two mine rescue teams were called out and one put the fire out.

**CAUSE:**

None given.

**PREVENTATIVE ACTION:**

None given.

**UO-940121-06-27-MV(F) January 21, 1994**

**FALCONBRIDGE LTD, CRAIG MINE**

**INCIDENT:**

A worker was operating an 8 yd. Toro LHD when he noticed flames coming from the unit. He shut down the LHD and extinguished the fire with a 20 lb. hand-held extinguisher.

**CAUSE:**

Pads on brake were oil soaked. The brake became overheated from the operator moving the unit with the park brake applied. The red light which indicates that the brake is on had a defective pressure switch.

**PREVENTATIVE ACTION:**

Reviewed incident with operator. Repaired brakes and changed the defective pressure switch. A different braking system is being investigated with Tamrock.

**UO-940417-12-05-MV(F) April 17, 1994**  
**INCO LTD, COLEMAN MINE**

**INCIDENT:**

A flame on the driveline brakes was noticed by the operator of a Marcotte anfo loader. The fire was extinguished by the use of water.

**CAUSE:**

The brakes came on while the vehicle was being driven.

**PREVENTATIVE ACTION:**

None given.

**UO-940625-09-06-MV(F) June 25, 1994**  
**PLACER DOME INC, DETOUR LAKE MINE**

**INCIDENT:**

Drive-line brake applied because of low oil pressure, causing overheating of brakes on a Wagner 26 ton truck. The fire was put out with a 20 lb. extinguisher.

**CAUSE:**

Low oil pressure and no indication to operator that brakes were applied.

**PREVENTATIVE ACTION:**

A review at crew meetings not to operate equipment with low oil pressure. Brakes were repaired.

**UO-940902-12-12-MV(F) September 2, 1994**  
**INCO LTD, NORTH MINE**

**INCIDENT:**

Hydraulic hose leading to front disc brake broke off on an ST8 and this resulted in the disc brake being applied. There was a small hydraulic leak from the dump cylinder on to the heated disc brake, causing a small fire. The fire was put out with an extinguisher.

**CAUSE:**

Hydraulic fluid leaked on to heated disc brake, which was dragging.

**PREVENTATIVE ACTION:**

The disc brake and fitting were changed and tested.



**October 13, 1994**

**INCO LTD., MCCREEDY WEST MINE**

**INCIDENT:**

A worker was operating an RBL truck on a ramp when the brakes came on. The operator raised the air pressure and slowly drove the truck off the ramp. A fire occurred in the brakes and it was extinguished using a fire extinguisher.

**CAUSE:**

Raising the air pressure turned off the indicating light but the brake was seized and a fire resulted.

**PREVENTATIVE ACTION:**

The truck was taken out of service pending an investigation.

**October 14, 1994**

**INCO LTD., MCCREEDY WEST MINE**

**INCIDENT:**

A worker was operating an EJC 430 truck on a ramp when the brakes came on. A mechanic investigated and repaired a short in the torque converter compartment. When the truck was moved flames appeared from behind the firewall. The fire was put out with the suppression system.

**CAUSE:**

There was a pinhole leak in a brake hose that caused a mist of oil to be sprayed on the exhaust manifold.

**PREVENTATIVE ACTION:**

The brake hose was re-routed.

**UO-941018-12-13-MV(F) October 18, 1994**

**FALCONBRIDGE LTD, CRAIG MINE**

**INCIDENT:**

The mechanic was taking a Toro 40 ton truck up to the 4000 Shop to change a broken hydraulic hose. The drive line disc brake came on and heated up and set the leaking hydraulic oil on fire.

**CAUSE:**

The brakes should have been released using an Enerpac pump prior to moving the unit up the ramp or the broken hose changed prior to moving the truck up the ramp.

**PREVENTATIVE ACTION:**

This incident was reviewed with the employee and the standard of releasing the drive line brake is to be followed when the drive line brake will not release properly.



**UO-941124-12-17-MV(F) November 24, 1994**  
**FALCONBRIDGE LTD, CRAIG MINE**

**INCIDENT:**

A mechanic had just completed servicing a Toro 40 ton truck. The operator drove unit away without releasing the driveline park brake. Brakes overheated and caught fire. The fire was extinguished with a 20 lb. Ansul extinguisher.

**CAUSE:**

Operator error. Operator failed to release brakes.

**PREVENTATIVE ACTION:**

Additional job instructions given to operator.

- G -

## **Flammable Liquids**

**UO-940114-06-26-MV(F) January 14, 1994**  
**FALCONBRIDGE LTD., LOCKERBY MINE**

**INCIDENT:**

The operator was backing a JS500 LHD out of the stope on the remote control. He noticed flames coming from the air filter side. The operator activated the fire suppression system and then an extinguisher to put out the fire.

**CAUSE:**

The cover over the brake solenoid became dislodged (possible contact with wall). The bleeding filter broke off and oil sprayed on the hot exhaust.

**PREVENTATIVE ACTION:**

None given.

**UO-940201-06-28-MV(F) February 1, 1994**  
**FALCONBRIDGE LTD, ONAPING MINE**

**INCIDENT:**

Oil was leaking from the oil cooler and it was drawn over hot engine components by the main engine fan and then it ignited. The operator activated the fire suppression system on the Wagner 6 yd. LHD and extinguished the fire.

**CAUSE:**

The oil cooler, located in front of the main radiator, leaked. Oil was drawn through the main rad and over the engine by the main engine fan. The hot engine exhaust components ignited the oil.

**PREVENTATIVE ACTION:**

The oil cooler system was repaired. The leak at the cooler was repaired. The engine and immediate area were cleaned. The fire suppression system was recharged and the heat shield for the manifold and turbo tested.

**UO-940208-06-29-MV(F) February 8, 1994**  
**WILLIAMS OPERATING CORP., WILLIAMS MINE**

**INCIDENT:**

While fuelling a JS600 LHD vehicle in the 9240 Level Fuel Bay, diesel fuel spilled onto the turbocharger and ignited. The flames were extinguished with a portable fire extinguisher.

**CAUSE:**

Failure of automatic fuel shut-off valve allowed fuel to overflow.

**PREVENTATIVE ACTION:**

The fuel shut-off valve was replaced and a hazard alert notice was posted in all U/G fuel bays.

**UO-940210-06-30-MV(F) February 10, 1994**  
**FALCONBRIDGE LTD, KIDD CREEK MINE**

**INCIDENT:**

A fire occurred on a 6 yd. Toro 400 in the engine area and it was put out with an extinguisher.

**CAUSE:**

Valve cover leaking oil on engine.

**PREVENTATIVE ACTION:**

Improved maintenance.

**UO-940304-06-32-MV(F) March 4, 1994**  
**ROYAL OAK MINES LTD., HOYLE MINE**

**INCIDENT:**

Oil from rocker cover spilled on engine exhaust and caused fire on an ST8. Fire was extinguished by hand-held extinguisher.

**CAUSE:**

Oil spilled on hot exhaust caused by a loose rocker cover.

**PREVENTATIVE ACTION:**

The operator was instructed to stop immediately if oil is leaking on to the manifold.

**April 16, 1994**

**PLACER DOME INC., DETOUR LAKE MINE**

**INCIDENT:**

While fuelling an LHD in 560 fuel bay, the nozzle slipped out of the tank and sprayed the hot manifold. The fire was put out with an extinguisher.

**CAUSE:**

Nozzle slipped out of fuel tank while refuelling.

**PREVENTATIVE ACTION:**

None given.

**UO-940418-09-03-MV(F) April 18, 1994**

**FALCONBRIDGE LTD, CRAIG MINE**

**INCIDENT:**

Oil from feed pipe was leaking on turbo charger of a 6 yd. Wagner LHD and ignited. Operator put out fire with a 20 lb. extinguisher.

**CAUSE:**

The oil feed pipe that delivers oil to the turbo charge developed a crack, leaking oil on the turbo charger causing a flame.

**PREVENTATIVE ACTION:**

Oil feed pipe replaced. Cleaned engine and immediate area.

**UO-940430-09-04-MV(F) April 30, 1994**

**SIFTO CANADA INC., GODERICH MINE**

**INCIDENT:**

Employee was hauling muck to stock. As he turned the corner, the cap on the front shock absorber of a Cat 35 Ton truck came off causing oil to spray onto the engine compartment on the exhaust. This caused a small flame. The operator shut down the unit and put out the flame with the hand extinguisher.

**CAUSE:**

Cap came off of the shock absorber. Cause is most likely due to striking a bump or object with considerable force.

**PREVENTATIVE ACTION:**

Unit brought in for repairs. Operators to adjust speed to suit the situation eg. slow down at a large bump and avoid striking objects.

**UO-940518-06-36-MV(F) May 18, 1994**  
**FALCONBRIDGE LTD, KIDD CREEK MINE**

**INCIDENT:**

An operator was mucking out a drift round with a 6 yd. Toro when he noticed smoke coming from the engine compartment. He got off to investigate and when he saw flames he proceeded to extinguish the fire with the hand held fire extinguisher.

**CAUSE:**

- 1) Crank breather leaking oil.
- 2) Blower drive coupling rubbers were missing causing a malfunction in blower which then overheated the engine and burned the wiring.

**PREVENTATIVE ACTION:**

Repaired the LHD.

**UO-940726-09-11-MV(F) July 26, 1994**  
**FALCONBRIDGE LTD, CRAIG MINE**

**INCIDENT:**

Worker drove anfo loader on Getman carrier to the 3000 fuel bay to fuel up. During the fuelling cycle using a Wiggin's system, fuel splashed onto the engine. The fire was extinguished using the suppression system and an extinguisher.

**CAUSE:**

Worker walked away from control valve to perform other work. Wiggin's fuelling vent that automatically shuts off the fuel was defective.

**PREVENTATIVE ACTION:**

Wiggin's fuelling vent was repaired. Incident reviewed with frontline supervision and operators.



**UO-941126-12-18-MV(F) November 26, 1994**  
**ROYAL OAK MINES INC., PAMOUR ONE MINE - TIMMINS**

**INCIDENT:**

A 6 yard EJC 210 LHD caught fire in a ramp at the Hoyle underground mine. Worker noticed smoke coming from the engine compartment. The fire suppression system was activated but did not function. He attempted to put the fire out with a fire extinguisher but was not able to extinguish the fire. The worker then called to have stench injected into the mine and sought refuge.

**CAUSE:**

The cause of the fire was a ruptured fuel line which sprayed fuel on the hot manifold of the machine.

**PREVENTATIVE ACTION:**

1. Operators and maintenance staff to check everyday for worn hoses or cracked line in the vicinity of the engine torque and transmission, and keep equipment free of excess grease and oil. 2. Operators and maintenance staff to check the fire suppression systems regularly. 3. Fire procedures to be reviewed on a yearly basis.

**December 11, 1994**  
**FALCONBRIDGE LTD., KIDD CREEK MINE**

**INCIDENT:**

A worker was operating an 8 yard Toro LHD on the 12 level when a fire occurred. The suppression system did not put the fire out. The mine rescue team was called out and used fire extinguishers to put the fire out.

**CAUSE:**

Hot transmission fluid sprayed on the turbo charger.

**PREVENTATIVE ACTION:**

A task force was formed to investigate these kind of fires. The oil filter was relocated.



**UO-941219-12-22-MV(F) December 19, 1994**  
**SIFTO CANADA INC., GODERICH MINE**

**INCIDENT:**

A worker was driving a CAT 76JC truck. He had just dumped a load in the crusher and was returning to the face. He noticed the oil light flash and pulled over and shut off the engine. He then noticed a glow from the passenger's side of the motor by the rad area and put the fire out using a hand-held extinguisher.

**CAUSE:**

The front oil filter had come loose, spraying out oil. The oil sprayed on the manifold exhaust.

**PREVENTATIVE ACTION:**

Oil filter has been replaced.

**December 19, 1994**  
**FALCONBRIDGE LTD., KIDD CREEK #3 MINE**

**INCIDENT:**

A fire occurred on a mobile rock breaker while it was being refuelled in 5200 fuel bay. The fire was put out with an extinguisher.

**CAUSE:**

Fuel spilled on exhaust while refuelling.

**PREVENTATIVE ACTION:**

None given.

**- K -**

## **Collision**

**UO-940408-12-04-MV     April 8, 1994**  
**TECK CORONA OPERATING COR, DAVID BELL MINE**

**INCIDENT:**

An operator was remote mucking with an EJC216 6 yd. LHD when the machine turned suddenly and the rear bumper went over the top of his foot, pinching it against a rock.

**CAUSE:**

The operator was standing in a safety bay but it wasn't cleaned out properly.

**PREVENTATIVE ACTION:**

The remote mucking procedure was reviewed with the crews.

**- M -**

## **Miscellaneous Accidents**

**UO-940628-09-07-MV      June 28, 1994**  
**PLACER DOME INC, DETOUR LAKE MINE**

**INCIDENT:**

While operating a 26 ton Wagner truck, operator lost steering and hit wall of ramp.

**CAUSE:**

Steering cylinder cap blew off steering cylinder.

**PREVENTATIVE ACTION:**

Set-screws will be installed on all steering cylinder caps.

- R -

## Runaway

**UO-940113-06-25-MV      January 13, 1994**  
**FALCONBRIDGE LTD, KIDD CREEK MINE**

**INCIDENT:**

Wagner ST3.5 brakes applied automatically while attempting to park the scoop on a shop ramp to repair a hydraulic hose. When the worker filled the hydraulic oil tank, while the engine was running, the brakes released and the LHD travelled down the ramp approximately 25 feet.

**CAUSE:**

Low hydraulic oil pressure applied brakes. The worker did not manually apply brakes and while he was adding oil to the tank, the brakes released.

**PREVENTATIVE ACTION:**

Design changes will be made on this LHD and other equipment to eliminate this problem. The training and procedure which are already in place will be reviewed. A hazard alert was issued to all operators.

**UO-940724-09-10-MV      July 24, 1994**  
**LAC DES ISLES LTD., LAC DES ISLES**

**INCIDENT:**

A Volvo 22 ton truck ran away and the box tipped over when the truck ran off of the road into a water filled ditch. The cab came to rest against a tree, so it stayed upright.

**CAUSE:**

Truck slipped out of gear and then the truck stalled causing air pressure to fall. The truck rolled down an incline and the steering locked up too.

**PREVENTATIVE ACTION:**

All Volvo trucks taken out of service.

- T -

## Turned on Side Accidents

**UO-930830-12-02-MV    August 30, 1993**  
**OMNIA ROUTHIER CONSTR., MATLABI MINE**

**INCIDENT:**

A dump truck rolled onto its side when the driver went too fast around a curve with a load of clay in the box. The box of the truck had been extended above its normal height to carry oversized loads. The driver was injured and the truck was not repaired due to its age and condition after the accident.

**CAUSE:**

An unlicensed driver was driving too fast for the road conditions.

**PREVENTATIVE ACTION:**

The worker was laid off due to shortage of trucks.







